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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,321

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Tsuyoshi Himori

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

09/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,321	Applicant(s) HIMORI ET AL.	
	Examiner Cathy Lam	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,12,14,15 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,12 and 14 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of the amendment and remarks filed on May 08, 2008, the pending claims continue to be unpatentable as following:

Election/Restrictions

1. This application contains claims 15, 18-21 drawn to an invention nonelected with traverse in the reply filed on January 18, 2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

2. Claims 1, 7-8, 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 7 and 8, it is vague and lack antecedent basis for "electrodes" and "electrode material" in the claims.

In claims 12 and 14, it is structurally indefinite as to what "the conductive pattern is *exposed at the surface of the component*" and "part of the conductive pattern and.....are *exposed at the surface of the component*" are referring to?

Claim Rejections - 35 USC § 102/103

3. Claims 1, 3-6, 9, 12 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Arrington et al (US 6586683).

It is noted by the Examiner that some claims are drafted in a product by process format. It is the product itself which must be new and unobvious. Unless some

Art Unit: 1794

unexpected result is shown that occurs due to Applicant's specific process(es), different processing steps are not patentably distinguishing for claims to an article. Claims language such as "a metal oxide layer formed by oxidizing the metal film", "formed by a plating method.." are processing steps which would not be given patentable weight unless applicant can show unexpected result by using such processing steps.

Arrington discloses a printed circuit device comprised of a substrate (110), a plurality of electrode pads (130,135,140,150) and wiring traces (145) (col 3 L 9-12).

The electrode pads and the wiring traces (145) are formed of copper (col 3 L 7). The substrate (10) can be an organic insulating board or a ceramic substrate (col 3 L 3 & L 6-7).

A copper oxide layer (190) is formed onto the surfaces of the electrode pads and wiring traces (145) (col 3 L 20-23 & Fig. 2).

The prior art figures do not show any copper oxide layer coated between the electrodes pads and circuit patterns. The examiner however is taking the position that the prior art has had the copper oxide coating on the substrate surface removed or purposely not coated onto the substrate surface.

Furthermore, the prior art teaches a copper oxide layer is directly formed onto wiring traces and electrode pads, thus without the step to oxidize the metal film. The examiner is taking the position that the claimed metal oxide layer is the final product of the metal film and that Arrington's copper oxide layer meets the present invention. In one embodiment of the prior art, the oxide layer (not under the protective layer) is

removed to reveal the conductive circuit feature; this clearly shows that the oxide layer can be partially coated over the wiring traces and electrode pads (col 2 L 20-34).

Allowable Subject Matter

4. Claims 7-8 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to incorporate *both* the material for the conductive pattern and the material and thickness for the metal oxide layer (e.g. for NiO and ZnO) into the independent claim.

Response to Arguments

5. Applicant's arguments filed on May 08, 2008 have been fully considered but they are not persuasive. It is believed that the prior art of record is at least obvious over the present invention.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1794

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cathy Lam/
Primary Examiner, Art Unit 1794